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COOPERATION OR CONFLICT? IDENTITY AND SCARCE RESOURCES OF PREHISTORIC SAHARAN PASTORALISTS

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ABSTRACT Nomadic or transhumant pastoralists in the Ennedi Highlands in north eastern Chad have always had to cope with scarce resources. When the region was first made use of by pastoralists circa 3000 BC, aridification had already started. Despite progressing aridification, the landscape was used for herding cattle and goats, and later also for keeping horses and camels in the following millennia. Hundreds of rock art sites are witness to this appropriation. While demographic data are still missing, it appears that comparatively intense dwelling activities inevitably put pressure on the scarce resources. In the art motifs from the last five millennia a fine-grained regionalization is expressed, indicating that in rather small neighbouring spatial units different identities were manifested, notwithstanding the common economic base. Different rock art traditions articulate different appropriation of the landscape by mapping markers of identity onto the land. Rock art depicts an ambiguous portrait of the social relations among the groups within the area since there are indications of cooperation on the one hand, whereas on the other hand many pictures of mounted warriors and numerous “sentinel” figures point at the potential for conflict — yet without ever depicting it.

Key Words: Prehistory; Identity; Rock art motifs; Saharan pastoralists; Scarce resources.

INTRODUCTION

A remarkable eye-opener for the awareness of the consequences of climate change for human livelihoods was the first contact of a European researcher with Saharan rock art. When Heinrich Barth in 1850 encountered his first rock engravings they instigated in him the question of climatic conditions in relation to cattle herding which obviously was once current in regions that turned into uninhabitable desert (Barth, 1857: 215–218). The discovery of the “Apollon Garamante” in the Libyan desert region Messak Settafet, showing two masked persons on the side of cattle (Barth, 1857: 210), made him ponder the possibilities of keeping cattle in this region and the necessarily formerly more advantageous climate. Since Barth, researchers have tried to ever better understand the cultural and social processes with which people inhabiting the Sahara managed their life under progressing aridification. It has to be borne in mind that the “green Sahara,” even in the climatic optimum of circa 8500–7000 BC (Kuper & Kröpelin, 2006) was nothing comparable to the deep green meadows of Europe, but generally a wide steppe area instead, where cattle were introduced when the climatic optimum was already past (Clutton-Brock, 1997; Le Quellec, 1998). Accordingly there was never an over-abundance of resources, and most of this land never sustained permanent habitation at any certain place for centuries, except in the oases. If the ubiquity of cattle in Saharan rock art is taken as an indication of the spread of the cattle

herding economy, how did the people manage scarcity in resources that must have prevailed in many areas with annual precipitation of 300 mm or less? Which spatial entities did they deal with? What were their strategies for the appropriation of land? Which type of social and political interaction prevailed, what role did cooperation play, if any, as opposed to conflict? In the literature these aspects are generally overlooked, despite the recognition of a rich variety of rock art styles, which with all likelihood stand for an equally rich patchwork of identities.

The working hypothesis forwarded in this paper is that these identities did not require settlements and built structures to advertise the appropriation of the land, but was achieved through rock art in various expressive forms. The distribution and motifs of the art as well as the choice of locations for it are clues to reconstructing the interaction of people, and whether cooperation or conflict was their primary strategy for securing access to resources.

Methodologically the paper will first outline the ecological framework that provided options and restrictions to all social and cultural processes upon which the main developments are also expounded. The following pages focus on rock art, based on survey data systematically collected by the author in three field trips, first investigating the link between art production and identity manifestations, and secondly looking at how such identity markers are related to space. In order to infer a realistic scenario of pastoral life from the distributional patterns of rock art, the concept of “lifeworld” is introduced, then used to understand the confined distribution of idiosyncratic rock art motifs. “Lifeworld” is a concept referring to the common experiences and understandings of members of a social group in their daily conduct of life. The goal is to identify evidence that may help to analyse social interaction across the landscape between presumably different groups of pastoralists. For this understanding, a spatial analysis of the distinct art bodies of paintings and engravings is presented. From this evidence, discussion will follow the hypotheses on the concepts of the “active” versus “passive” appropriations of the landscape to draw conclusions as to whether social interaction between groups in the Ennedi Highlands was more conflicting or more cooperative.

THE NATURAL AND CULTURAL SETTING

The Ennedi Highlands form a part of the Sahara Desert, located on its southern margin in the east of the Republic of Chad (Fig. 1). Since the mid Holocene to the present, pastoralists have inhabited the region, herding various domesticates, i.e. camels, cattle, goats and sheep sometimes with horses (Meerpohl, 2007). The sandstone highland provides relatively rich vegetation and a few natural water reservoirs which regionally enable semi-permanent settlement. But vast regions in the north and east of the Highlands can only temporarily be used in years of advantageous seasonal conditions by small numbers of people. The picturesque precipitous western flank is more favourable to habitation, compared to the less spectacular landscapes in the central and eastern parts, due to two permanent water holes.

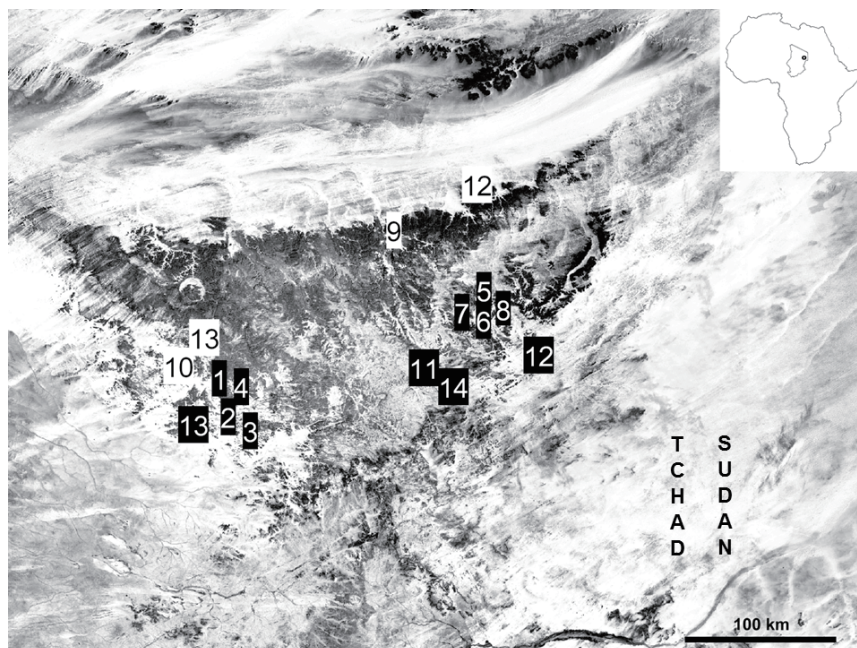


Fig 1. This satellite picture (changed from Landsat 5, cf. <http://landsat.usgs.gov>) shows the Ennedi Highlands with indications of areas with idiosyncratic rock art motifs, some like 12 and 13 occur in two areas, others only in a single site

1. Horses in flying gallop (cf. Lenssen-Erz, 2013: 34)
2. Village scenes (cf. Lenssen-Erz, 2013: 34)
3. Riders on fantasy 'horses' (cf. Lenssen-Erz, 2013: 34)
4. Camels in full gallop (cf. Lenssen-Erz, 2013: 34)
5. Emphasis of the navel of cattle (cf. Lenssen-Erz, 2013: 34)
6. Life size cattle engravings (cf. Lenssen-Erz, 2013: 35)
7. Figures en miniature (cf. Lenssen-Erz, 2013: 35)
8. Engravings with an 'aura' (cf. Lenssen-Erz, 2013: 35)
9. Engraved life size, decorated women (cf. Lenssen-Erz, 2013: 35)
10. Dogs (cf. Bailloud, 1997 passim)
11. White geometrics (site T04/10 only, Fig. 2a)
12. Mesh like engravings (site T05/532, Fig. 2b, see also Simonis, 1996)
13. Handprints (site T04/43, Fig. 2c, and Bailloud, 1997: 44)
14. Grooved shelter walls and ceiling (site T04/23)

The Highlands have quite a remarkable and ubiquitous rock art from the last five millennia. Archaeological knowledge concerning the background to rock art production is based on very few systematic archaeological studies (Bailloud, 1969, 1997; Lenssen-Erz & von Czerniewicz, 2005; Keding et al., 2007; Lenssen-Erz, 2007). They allow a rough understanding of the settlement history of the Highlands. Hunter-gatherer presence can be determined only in few scattered locations, which can be identified by Dotted-Wavy-Line pottery (Keding, 1997), indicating sparse hunter-gatherer populations from the early to mid-Holocene—a perplexing fact, since this was the period of best climatic conditions with a reconstructed

annual precipitation of up to 700 mm in the inner highlands and should have facilitated comparatively carefree foraging (Pachur & Altmann, 2006: 564). Pachur and Altmann (2006) reconstructed 400 mm annual precipitation at the outskirts of the Highlands around 7000 BC, as enough to sustain open lakes.

Pastoralists first become archaeologically visible around 3000 BC when the decrease in precipitation had already begun. Based on the data of Kröpelin et al. (2008) and hypothesizing that the southward increase of annual precipitation roughly parallels today's isohyets (Andigue et al., 2006: 13), then the Ennedi Highlands may have received around 250 mm precipitation in this phase, which today prevails south of the Ennedi where cattle herding is current. Judging from the distribution of rock art motifs of cows, one may conclude that at times cattle were kept all over the Highlands, but the Ennedi interviewees today categorically deny the possibility of pasturing cattle in the central and eastern regions (where masses of rock pictures of cattle can be seen) even in years with good rainfall. Pachur & Altmann (2006: 562) considered that the 100 mm isohyet is the borderline for cattle keeping.

This first pastoralist occupation period is marked by cultural links eastwards to the Wadi Howar Region (Keding et al., 2007; Jesse et al., 2013), but also NNE to Jebel Ouenat, notably visible in pottery that is very much alike in these regions. Around 1500 BC the eastward links vanish due to the fact that the Wadi Howar Region became uninhabitable through aridification (Jesse, 2003: 53–57; Jesse et al., 2013).

Horses were introduced to other parts of northern Africa after 1500 BC and camels around 500 BC (Clutton-Brock, 1997; Le Quellec, 1998; 2006). It is currently assumed that these domesticates reached the Ennedi Highlands not earlier than the 1st century, perhaps synchronically (Bailloud, 1997: 15). Thus the Ennedi would differ from other Sahara regions where the introduction of horses usually antedated that of camels (Clutton-Brock, 1997: 421; Le Quellec, 1998: 119–121; 2006). This relatively late introduction of new domestic animals roughly coincided with that of iron technology to the region, which reached the Ennedi at ca. 200 AD. Around 400 AD, autochthonous production was established, archaeologically visible in furnaces and tuyeres (Keding et al., 2007: 37). At this time, cultural links are directed to inhabited regions in the west (Borkou/Djourab) and northwest (Tibesti), indicated by similarities and parallels in pottery (Treinen-Claustre, 1982) and in rock art.

METHOD OF COLLECTING ROCK ART DATA

The present study is entirely based on data that the author and his co-workers newly collected in surveys on foot from base camps normally used for several days up to two weeks. This allowed covering large areas, particularly in the north-eastern regions. Due to the open landscape, the survey team could inspect all rocky elevations in areas covering dozens of square kilometres thus probably hardly missing any large rock art sites. Data forms were used to record the character of the site and its landscape context, where 22 features were differentiated by 135

criteria (Lenssen-Erz, 2001: 273–282; 2004). An additional form sheet for engraving sites was used to record 15 features and 88 criteria, and a counting list for rock art motifs as well. Data particularly pertinent to the present study are those which focus on the accessibility of the site, its connection to natural features of mobility, dwelling and water supply, and to the visibility of the site and of the rock art.

EXPRESSIONS OF IDENTITY IN ROCK ART

The Ennedi Highlands are an area where rock art production seems to date back 5,000 years from today, but it would be naive to suppose an ongoing tradition without interruptions. The archaeological record indicates a hiatus of occupation between 1200 BC and 200 AD (Keding et al., 2007), and in the more recent past there may have been more interruptions that still need to be identified. An example of current rock art practice with an identity-component became manifest during research in the southern central area of the Highlands, when the survey team encountered a young nomad near a rock art site where nomad household gear was deposited. This young man asserted that some of the basic geometric signs found at this site, such as simple crosses, he made himself—on the side of and superimposed over apparently older engravings and paintings of camels and people on camels (Lenssen-Erz, 2012b: 33). The cross-sign he made is the branding mark for the camels of his family and he insisted that the signs at the site were made for no special purpose at all—not even to mark this place as the one where his family deposited their household gear. Nevertheless the sign as such is linked to his family identity, even if it has no special function in the place where he made it.

This practice finds an analogy in behaviour Russell has investigated in interviews with young Turkana pastoralists in northern Kenya, who asserted to having pecked branding marks into rock surfaces as a pastime (Russell, 2013: 10–11). The claim that there may be no deeper sense behind these engravings was supported by the opinion of older Turkana who maintained that the marks were meaningless on inanimate things. Notwithstanding this lack of function, the signs are linked to the young men's identity as pastoralists. On the camels of the Ennedi of today such signs serve the purpose of marking one's property (Meerpohl pers. comm. 2007), thus also marking the central element of the pastoralist identity. Russell (2013: 20–21) also reported similar intentions in ownership marking among the Rendille of northern Kenya.

Another kind of motif by which elements of identity are expressed in rock art are the Libyco-Berber inscriptions (Tifnagh). Only one such typical incised inscription was found in the research area in the southern central highlands, but they are current in more central regions of the Sahara. For example, in the Algerian Tassili n'Ajjer, some 1800 km northwest of the Ennedi, Oukafi Cheikh (2012) found many such inscriptions during his research. He also encountered an old Targia (Tuareg lady) who pointed out a site where she had incised Tifnagh inscriptions when she was young. As is typical for other such inscriptions, her message only

contained her name and greetings to passers-by (Oukafi Cheikh, 2012: 63–64). For her it was obviously important to be personally identifiable when she marked a specific place in the landscape.

From these first hand contextualization's of contemporary rock art practices, one can learn that rock surfaces are embellished with signs of personal character, either as an individual (inscription of a personal name) or as part of a larger social group (clan or family symbol), thus articulating certain levels of identity.

ROCK ART AS A SPATIAL PHENOMENON LINKED TO IDENTITY

With rock art, two fundamental experiences of the human being are forged into a unified whole: communication and interaction by means of a symbolic system on the one hand, and on the other hand, by the use and appropriation of space. Space plays a role with rock art on three levels: the micro-level is the distribution on a specific wall which creates relations between motifs that can be perceived synchronically, the meso-level is the distribution in a site allowing synchronic use of space without necessarily perceiving the whole body of art, the macro-level, finally, is the spread of art over the landscape, introducing a diachronic aspect into the use of art and space. It is mainly the macro-level which is investigated in this paper.

As a rule, rock art retains its original spatial configuration over millennia, preserving past patterns of appropriation and thus differs from most other archaeological sources except buildings. Accordingly, if one understood the interplay of place with social interaction and communication, rock art can inspire hypotheses concerning the meaning which the art, and the processes of its production and consumption, may have had for the people of long ago and which identities they articulated through the art. The relation to space can be analysed reliably due to the property of rock pictures, usually highly visible artefacts that have not changed their configuration in space since they were made. This particular property also represents a special capacity of this type of art to prompt ever new appropriations throughout history whenever a new group becomes connected to the particular land. Rock art as a means of communication linked to space, maps onto the landscape signs of identity, making them operational in social interaction and behaviour (cf. Domingo Sanz, 2008: 125; Gallardo & De Souza, 2008: 82; Lenssen-Erz, 2008).

For this relation of space and landscape to identity and social bodies, one can find convincing analogies in ethnography. The rock art of the “Dreamtime” of the Australian Aboriginal people firmly associates places in the land with their own coming into being (Berndt & Berndt, 1992: 137, Lawlor, 1991), and may assert “that there is no separation between who we are and where we are” (Faulstich, 2003: 3). Another analogy is reported from American Indian people where Stoffle et al. (2000, 2003) have shown how narrowly place and ritual are interrelated, and where the observance of the rules of correct local sequencing of rituals is crucial for the rituals’ success. For a further analogy, it is the term, *n!ore*, which expresses the link of person and land among the extant San hunter-gatherers in

southern Africa. It designates the area where someone is at home and where he or she has the rights of an owner (Marshall, 1976: 71). Their identity is thus based on specific features of the land, for example, the peculiar quality of a waterhole pinpointed with the phrase of a /Xam-San, “my place is the Bitterpits” (Deacon, 1986). Finally, Colson, writing on the shrines of the Nkoya of Zambia, treats waterholes as places of power, and places of human creation, a rock art site, for example, as shrines which are important cornerstones of identity since they “...remind supplicants that they belong to a discrete community occupying space.... The local shrines...supply named landmarks that define the terrain associated with the community and emphasize its distinctiveness. They serve local residents and those in their immediate vicinity as points of identification with space, around which other sites can be mapped” (Colson, 1997: 53).

All these examples show that across many cultures one can find the narrow intertwining of identity with space. It is therefore assumed that in the Ennedi Highlands, rock art with its clear spatial connotations, *inter alia*, was a means to express and communicate identity concepts.

As was expounded above, rock art distribution provides hard data with high reliability since the spatial configurations remain unchanged through history while statements concerning identities will always remain hypothetical. Regarding distributional patterns, archaeological surveys of the rock art in the Ennedi Highlands (Lenssen-Erz & von Czerniewicz, 2005; Lenssen-Erz, 2007; 2012a) have revealed what would seem to be an inconsistency: on the one hand, generally, negotiating the Highlands do not pose special difficulties, and wide stretches can be explored quickly and easily. But on the other hand, this general ease of mobility and the consequential ease of exchange between areas are contrasted by a conspicuous formation of small spatial entities in the landscape, which are discernible in the distribution of certain rock art motifs. These motifs are very distinct and are found only in narrowly restricted sections of the landscape such as a short valley, an agglomeration of hills or a basin like structure (Lenssen-Erz, 2012b) (Fig. 2a–c). Motifs in two unconnected areas (12 and 13 in Fig. 1) may reflect seasonal use of these areas. In the case of the handprints, however, the sign is so universal that it may have been used by more than one group.

This finding also applies to the rather intensive research by Bailloud in the western foot region of the Highlands (Bailloud, 1997). Although the area of his research measures only approximately 60 × 80 km (Bailloud, 1997: 20), he established a complex differentiation of stylistic groups (Bailloud, 1997: 13–19). Even if conceding the rather long chronological sequence and an intuitive identification of styles by Bailloud, one may accept that his distinctions grasp the morphology of entities within restricted spaces. Whether or not they can indeed be accepted as styles *per se*, the differentiation of 14 rather distinct phenomenal groups in a very small section of the landscape may be a strong indication of rather clear manifestations of social collectives marking their identity in space with rock art styles. Beyond this local restriction of styles, specific idiosyncratic motifs, independent of style, also in their distribution corroborate this interpretation of a rather fine-grained distribution of different social entities (Lenssen-Erz, 2012b: 34–35).

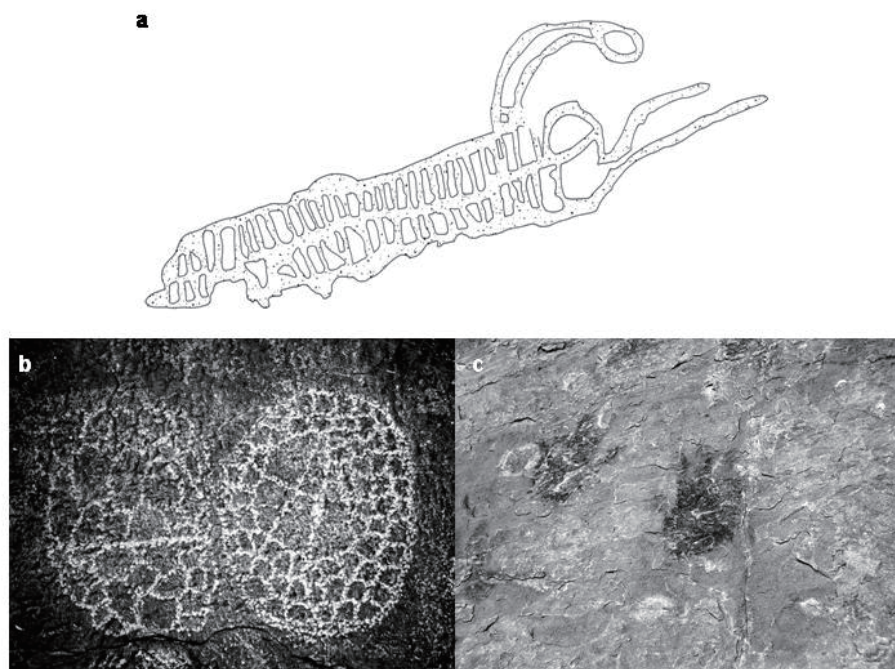


Fig. 2. Idiosyncratic motifs from Ennedi Highlands

The white geometric, 2a, is one of four motifs of the same make exclusively found in one site in central Ennedi (see No.11 on map Fig. 1); handprints and mesh-like engravings, apart from being almost universal motifs, are restricted in the Ennedi Highlands to two locations known so far (see No. 12 and 13 on map Fig. 1).

THE CONCEPT OF “LIFEWORLD” APPLIED TO ROCK ART

Before analysing and interpreting the appropriation of land with rock art, the author introduces here the concept of “lifeworld,” and will demonstrate how this concept can contribute to a deeper understanding of the use of parts of the landscape and the interaction of people in this landscape.

Obviously the restricted distribution of the mentioned idiosyncrasies to small sections of the landscape can be linked to certain patterns of behaviour in the use of the landscape. It appears that in the Ennedi the spatial entities harbouring an idiosyncratic rock art motif preferentially vary around a certain size. In the inner parts of the Highlands, single valleys or confined valley systems provide clear spatial entities. In the western foot region, the only natural border is the cliff side while all other sides are open land so that the area is not naturally confined, except that there are no more rocky outcrops few kilometres from the cliffs. At any rate, all these areas measure few kilometres across, so that they can easily be crossed on foot within a day or even within a few hours, and seem to have been the arenas for playing out identity manifestations by means of rock art.

These spatial units seem to fit that part of a landscape that may be used by a (temporarily) settled group during one day, and in such a case, the author calls this their daytime lifeworld. Table 1 presents a very abbreviated outline of this

lifeworld concept. Lifeworld stands for a theoretical concept that is oriented towards living practice, and therefore basically draws on the theory of “Lebenswelt” derived by Schütz from the phenomenology of his mentor, Husserl (Schütz & Luckmann, 1975). This concept is based on the assumption that there is a world of common, everyday experiences and interpretations on which all theoretical knowledge is dependent (Schütz & Luckmann, 1975: 23).⁽¹⁾ A basic characteristic of the everyday lifeworld is its intersubjectivity, by forming a social world where practically all members of a social body take part with roughly the same interpretations of daily phenomena (Schütz & Luckmann, 1975: 33). The everyday lifeworld, seen as the most common and widest accepted kind of reality, comprises physical objects, nature and the everyday social world (Schütz & Luckmann, 1975: 41). This concept does not postulate sharply defined social entities, neither political, social nor ethnic, nor does it mean that those who share a lifeworld do in fact all cooperate.

Arendt, following Schütz, developed and summarized his concept for a modern world context, and her interpretation matched all pre-modern lifeworlds very well when she asserted that “the world of common experiences and interpretation (Lebenswelt) is taken to be primary and theoretical knowledge is dependent on that common experience in the form of a thematization or extrapolation from what is primordially and pre-reflectively present in everyday experience” (Yar, 2001).

For the present archaeological purpose, this everyday experience that has no temporal or spatial specification is divided into three main spatio-temporal units: an annual/seasonal lifeworld, a daytime, and a nocturnal lifeworld. The daytime lifeworld, which is the most relevant entity in the present study and correlates with the macro-space of rock art, is a part of the landscape that contains all basic resources needed during a normal day. This largely relates to the basic needs of food and water but also, in the context of a pastoralist economy, to pasture, fuel and raw materials that are needed and used up in high frequency. Accordingly, it is the character and richness of the local biotope that to a considerable extent influences the choice and spatial extension of the daytime lifeworld. Sharing of this daytime lifeworld with others is possible but, if it should be peaceful, it would most probably require approval or other arrangements, and would perhaps underlie the quantitative limitations met in the exploitation of resources due to restrictions of capacity. This daytime lifeworld is of a size which allows movement within its entire extent in one day so that communication with others using it synchronically is possible with only short delay.

The seasonal/annual lifeworld, by contrast, contains not only several daytime lifeworlds but also further resources, such as rare or seldom used raw materials or only seasonally available faunal or floral resources. It may be shared with strangers who may have access to resources even without prior coordination or consent. The entity is usually quite vast so that others may enter it without the original inhabitants necessarily taking notice of it. Also, moving across it may take days and does not take place on a daily base, thus constituting a spatial entity that is negotiated individually only by fully active adults.

Finally, the nocturnal lifeworld of camp, house, village, etc. (Lenssen-Erz, 2013) is not resource oriented because it is the place of the processing and consumption

of the resources. More importantly the place is chosen in view of its qualities for habitation and shelter. As a home it is the safest place people have. It is a clearly defined space and the access to it is only upon consent or invitation of the principal owner. If necessary, this place is most decidedly defended. But this spatial entity is so small that it can be negotiated any time by everyone, even by small children, on their own. Everything within it is known and there are no incalculable risks and much is humanly manipulated.

Table 1. A brief outline of the concept of three lifeworlds as different spatio-temporal entities of use (Lenssen-Erz, 2013)

Lifeworld	Annual/seasonal	> Daytime	> Nocturnal
<i>Period of use</i>	A whole year/season (e.g., rainy or dry season)	The day from dawn till darkness	The night
<i>Space</i>	That which one ranges during a season or year; autarchic entity	That which one ranges during a whole day (to and from); autarchic for short periods	That which is indispensable for the basic needs during a night in consumption, hygiene and shelter; dependent entity, with least mobility
<i>Most frequent activity</i>	Exploitation of all resources that are needed for life	Provision of all resources for a whole day (water, food, fuel, pasture, raw material, medicine, ritual materials)	Satisfaction of basic needs, ritual behaviour
<i>Communication and social interaction</i>	Communication/interaction (across the whole entity) possible with much delay, connected to mobility; communicative (linguistic) impediments across the entity possible; heterogeneous identities possible; sharing of entity with other groups is possible even without explicit permission	Communication/interaction across the whole entity possible with short delay; communicative (linguistic) impediments unlikely; relatively homogenous identity likely; sharing of entity with other groups is unusual without explicit permission	Communication/interaction across the whole entity at any time; no communicative (linguistic) impediments; homogenous identity; no sharing of the entity with other groups except on invitation
<i>Ritual or religious utilisation</i>	Possible; hardly ever includes all users of the lifeworld	Probable; rarely includes all users of the lifeworld	Most probable; likely includes all users of the lifeworld
<i>Archaeological correlate</i>	Macro-region, habitat (?) (various definitions)	Meso-region (various definitions)	Micro-region, site (various definitions)

A comparison with other regions worldwide has shown (Sauvet et al., 2009) that the relatively small region of the Ennedi is as diverse in its rock art motif-frequency and distribution as much larger areas such as southwestern France and the Pyrenees in the Late Pleistocene or northern Australia in the Holocene. With a newly developed frequency/distribution index of rock art motifs the study of Sauvet et al. has shown that for example, in the neighbouring Ennedi regions of Shekitiye and Mornou, only 40 km apart in an open landscape, rock art motifs are almost as diverse as between the Kimberly and Laura districts in Australia, which lie roughly 1,500 km apart (Sauvet et al., 2009: 328). It has to be noted

that the author chose for this study Shekitiye and Mornou for statistical reasons, and that usually areas in the Ennedi distinguishable in specific rock art motifs become discernible on a scale of less than ten kilometres. As mentioned above, across the Highlands one can find very peculiar motifs which appear exclusively in areas such as a short valley or a basin, not larger than a few square kilometres (Lenssen-Erz, 2012b: 34–35) Fig. 1 shows the distribution of motifs from Fig. 2. The white geometrics of Fig. 2a, for example, are in a shelter on the side of a sizeable basin and there is a good overview from the site over the pasture in the basin. The handprints of Fig. 2c are in a site where a valley widens, providing a good travel route in east-western direction.

One may conclude that under the arid climatic conditions, and the consequential relatively sparse population, the Ennedi in the times of the pastoralists saw rather high social dynamics that may have furthered pictorial manifestations of various identities. By contrast, the pure hunter-gatherer rock art of the Brandberg/Daureb in Namibia, which forms part of the same study (Sauvet et al., 2009), turns out to be very homogenous in the frequency/distribution index over a wide, clearly structured and profiled landscape (Lenssen-Erz, 2012b). The regional differentiation of rock art is finer grained in the Sahara than in northern Australia, where comparable climatic conditions prevailed during the Holocene. From the regional distribution in the Sahara compared to northern Australia one may conclude that the economic strategy of pastoralism as opposed to foraging may be supportive for distinct identity manifestations in small spatial units.

As a consequence, from the distribution of idiosyncratic rock pictures in daytime lifeworld landscape entities and the manifestations of localised identities implied therein, it emerges that these groups would with all probability have had no perennially abundant resources in view of a climate that provided less than 300 mm annual precipitation. Accordingly, the people would have had to be rather mobile, leaving no built structures, except for a few small stables or caches, which would indicate a permanent settlement for any larger group. Nevertheless with their typical rock art they would distinctly mark a certain section of the land to which they obviously felt especially attached. The choice was then to compete or to cooperate with neighbouring groups in the access to resources not available in their daytime lifeworld. Cooperation would have been the most reliable option of interaction since the terrain of the Highlands is not conducive for an aggressive or combative strategy since it is characterized by wide open plains and low ridges that can hardly hide or protect anything, while retreat would mean to move into the open desert. Also there are no building measures to be found anywhere in the Highlands that could be interpreted as protective or defensive structures. Finally, without that being a proof, no rock art has been found to show actual fighting scenes, even though people armed with lance and shield (useless for hunting) are a recurrent theme.

PAINTINGS AND ENGRAVING: A VALID DICHOTOMY?

For the understanding of some of the social dynamics in the Ennedi Highlands under synchronic and diachronic perspectives, there is a data source that allows a direct access to the basic structure for at least two distinct large corpora of rock art: the paintings and engravings. Evidently the painting works by adding colour while the engraving works by taking away parts of the weathered rock surface. The two main techniques are not only superficially different in the technical means used for their production, but also in many other respects, as will be demonstrated below, strongly suggesting that their making is based on different social or ritual practices.

As has been hypothesized above, the relatively fine-grained separation of identity groups is based on a number of stylistic elements and idiosyncratic motifs (Lenssen-Erz, 2012b). These variations are special expressions superimposed over a far reaching convention that the main focus of the art is on the main domestic animals: this indicates a cultural consensus that a long period was obviously channelled into a cattle centred ideology which in turn was informed by the economic strategy (Jesse et al., 2013). This common base of pastoralism may also have a semiotic expression in the uniformity of pottery seen throughout the Highlands and extending further east into the Wadi Howar Region in Sudan (Keding et al., 2007; Jesse et al., 2013). Besides styles and idiosyncrasies constituting two levels of a fine granularity distinguishing small landscape compartments on the one hand, and the overarching economic strategy of pastoralism prevailing countrywide on the other hand, there seems to have existed an intermediary level of cultural distinction expressed by the implementation of the two basic art techniques, namely painting and engraving. For example, engravings are almost absent from the western forelands at the foot of the cliffs, while both techniques can be found side by side in many areas of the Highlands, with paintings having a wider distribution. But looking at the details, a number of discriminating characteristics become evident that point at different contexts and meanings for both the techniques, notwithstanding the use of the same motifs.

Table 2. Synopsis of basic data on paintings and engravings, evincing differences between the corpora on several levels

Basic data	Paintings	Engravings
Quantity	5,795 figures in 104 sites => 55.7 figures per site	773 figures in 54 sites => 14.3 figures per site (a few sites have paintings and engravings)
Distribution	Clear local concentration besides a wide distribution of sites throughout the Highlands	Loose scattering over restricted parts of the landscape, almost without concentrations
Mode of presentation	35% open presentation of pictures (i.e., visible from a distance)	70% open presentation of the pictures
Context	34% in isolated locations (i.e., the next rock art site is > 300 m distant)	54% in isolated locations
Habitable sites	91% of the paintings are in shelters which provide options for habitation	31% in roofed shelters => restricted options for habitation

Visible traces of use	58% with surface finds of artefacts, 35% with some kind of built stone structures	49% with surface finds of artefacts, 14% with some kind of built stone structures
Accent of landscape	24% at the foot of elevations, 1% waymarks	43% at the foot of elevations, 11% waymarks
Landscape pattern	Accent of landscape does not produce a clearly dominant pattern in how painted sites are linked to elements of the landscape	Accent of landscape produces a clear patterning in the linkage of engraved sites to elements of the landscape
Motif selection	Paintings show animals 52%, humans 31% and signs etc. 17%	Engravings show animals 66%, signs 27% and humans 7%
Preferred motifs (listed here are all motifs with a frequency >0.5% in the whole corpus)	Painting was the preferred technique to depict goats (100%), humans (96%, i.e., only 4% of the human figures are engraved), horses (95%), cattle (92%) and giraffe (54%)	Engraving was the preferred technique to depict ostrich (79%) and camels (58%)

“Accent of landscape” refers to conspicuous landscape features such as passes, hills, peaks or particularly large boulders along natural travel routes (“waymarks”. Lenssen-Erz, 2004).

It emerges from Table 2 that painting and engraving are not just technical options to be chosen randomly according to availability of means postulated, for example, by Lewis-Williams & Loubser (1986: 259). Quite obviously each technique had its own complex patterns of practice and consequently they very likely served different ends. The sites and their position in the structure of a landscape forming the lifeworld of pastoralist groups provide data concerning the use of the natural infrastructure, the potential living quarters, travel routes, resources, etc., and the connections people made to the landscape features.

COOPERATION OR CONFLICT?

The art itself sets a *caveat* against the idealised picture of cooperation of closely neighbouring pastoralist groups. With the Iron Age and the accompanying technology, rock art partly turns into a medium by which potentials of power are advertised. Metal points excavated in the area (Keding et al., 2007: 40) are frequently seen in depictions of static sentinel-like figures referred to as the “Libyan warrior” (Muzzolini, 2001), equipped with lance and shield and often with a rich head decoration. They are widespread in the inner highlands, an indication of western relationships since these figures abound for instance in the engravings of the Air mountains of Niger (Dupuy, 1998). These standing men have a canonised way of display, facing the looker-on, lance held vertical on the side and the round shield in the other, facing front (Fig. 3). Frequently they appear in rows of up to a dozen men and there are a few instances where women are shown in the same posture holding at least a lance. However, the real implementation of the arms in combat or the like is never depicted, which is why these figures are more of a sentinel character than a fighter. Partly they are associated with cattle that they seem to guard. A specific characteristic of the sentinels is that each seems to have an individually ornamented shield. In analogy to cattle that are individualised with very peculiar patterns of coat (Lenssen-Erz, 2012a), the shields of the sentinels are embellished with patterns that are never repeated by another figure, while the

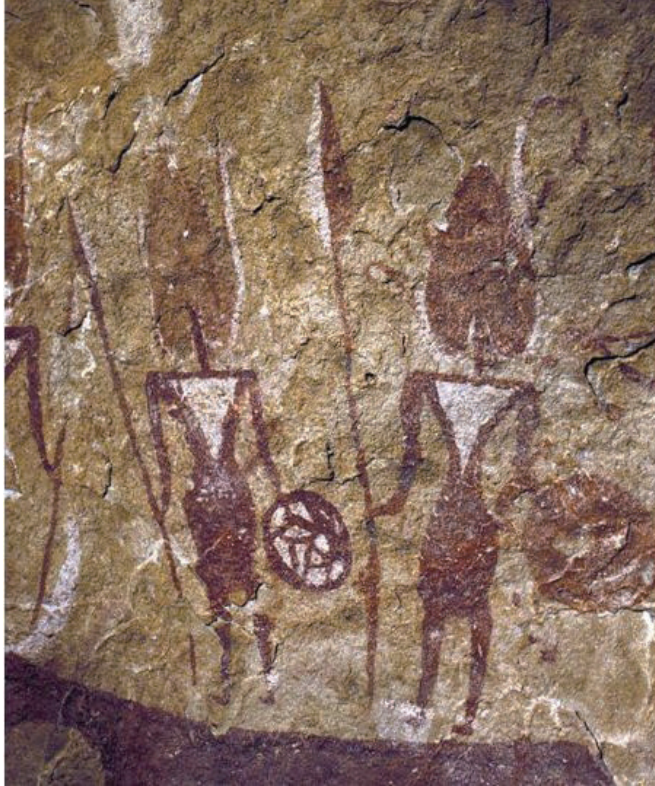


Fig. 3. Sentinel figures from eastern central Ennedi

While the figures are basically identical the shields display clearly different designs, thus introducing a notion of individuality.

ornamental head gear may be very similar among figures.

The shields with their individual designs are often decorated in ways recalling the unrealistic patterns of cattle coats (Smith, 2004: 46) current in the Ennedi rock art. Smith (2005: 14) described South African pastoral Zulu warriors using cow-hide shields of a particular colour for each regiment. Another connection between hide patterns and group identity has been reported for the Ethiopian Bodi, where each clan is identified by a specific hide pattern, and the deceased elders are buried in the hide of a cow exactly matching this pattern (Smith, 2005). A similar association between clans and hide patterns can be seen among pastoral Herero in Namibia (Eckl, 2000: 425–428). As for the Iron Age pastoral groups of the Ennedi Highlands one may hypothesize that they manifested their affiliation and identity through a symbolism closely linked to their cattle to which they made analogies with the designs on their shields. That, as a rule, a design is never repeated, on the shields as much as on the cows (with the exception of calves next to their mother), is another possible indicator of the fine-grained differentiation of identities prevailing in the Ennedi Highlands.

The most evident martial depiction among the art can be found on the side of

the plains in the west of the Highlands. Here are the comparatively frequent mounted warriors, whose horses are shown in flying gallop, with legs stretched out horizontally to front and back (Lenssen-Erz, 2012b: 34). The figures are sometimes armed with lance and shield, and occasionally accompanied by warriors on foot. But since these figures are never shown fighting, or even in confrontation, their function may well have aimed at signalling a certain power to show preparedness without execution of force. The art does not tell the tale of heroes. This indicates a narrow field of use and, consequently, meaning for mounted horses that suggest that their owners were a specific socio-professional group if not a class or caste of the same society, not involved in the ordinary working processes of the pastoralist economy as portrayed in depictions of people interacting with cattle. Even today, horses in the region are normally seen reserved for riding, considered too precious for labour demanded of camels, cattle and donkeys (Meerpohl, pers. comm. 2007). Horses could have been the emblem of warriors or “knights,” analogous to the elites whom Brass (2007) suggested to have emerged in Saharan pastoral societies at a time even before the Ennedi was systematically used by pastoralists.

While these warriors and horses would seem to indicate a conflict oriented meaning to this motif in rock art, it is worth noting that this type of horse in flying gallop is found in different metamorphic stages, from realistic horse to a fully fantastic being (Keding et al., 2007: 28–29) capable of the flying gallop but displaying many non-natural features, including arms and a rodent-like head (Lenssen-Erz, 2012b: 34). Accordingly the meaning of horses in the art has a capacity of transcending the martial potential to supernatural concepts, not discernable as to whether mounted horses meant cooperation or conflict. But again this is a restricted area phenomenon of the western Ennedi that does not allow much generalisation.

DISCUSSION

The author postulates that rock art to some extent was used for the advertisement of identities and that these identities were marked in confined spatial entities. Among the art bodies most clearly differentiated but having a far-reaching distribution are paintings and engravings. The differences in painted and engraved sites trigger some hypotheses concerning the appropriation of the land by means of rock art and as to which kind of social interaction can be inferred from them.

Paintings often depict narratives and show many human figures in action which facilitates the recognition of scenes (Lenssen-Erz, 1992). The communication through pictorial art seems to have drawn upon metaphoric contents directly linked to everyday experiences. This way of communicating evoked the lifeworld with its real and realistic shared empirical experiences. Places and the landscape were marked in the context of secular use clearly determinable since rock painting sites are usually habitation sites. Accordingly the marking by means of paintings took place in the everyday lifeworld, and painting activities were not confined to some inaccessible or tabooed sacred spaces or ethereal contexts.

Therefore, when choosing a site, the painters had no special symbolism or sacredness of the land or rock formation in mind, nor did they look for particularly suited canvasses. Rather, the most important factor was the suitability of the place for habitation, as 91% of the painted sites provided useful shelter with a flat roofed space where one could sit or stand up with an area of about 20 sqm, whereas 69% of engraved sites did not. The appropriation of a painted site then was mainly by using it for habitation and related activities which becomes detectable in surface finds of artefacts which occur in 58% of the painted sites and in built stone structures occurring in 35% of the sites. Even though they may be more recent than the pictures, these objects underline the suitability of the places for habitation. Only subsequent to the first habitation was the appropriation completed by the production of rock paintings, but producing rock art was not the main goal and intention of the appropriation. Painting may have been part of particular ritual behaviour, but embedded in the daily lifeworld. This entire process was an **active** appropriation of the landscape, because people imposed their patterns of use on the land and used the sites not only to deposit household gear but also to deposit, as it were, the insignia of their identity, livelihood and social values in pictures of their cattle. Their behaviour largely aimed at making use of and exploiting the natural infrastructure, and painting was part of this normal life.

On the other hand, engravings display clearly distinct features and a characteristic distribution that instigate other conclusions. In their motifs engravings are generally non-narrative with much more symbolic signs than paintings, with hardly any scenes which is largely due to the scarcity of human figures. The engravings lack concrete links to the lifeworld. Rather, they seem to express a kind of abstract religiousness or a worshipping of the land using the same motifs as the painters, but doing so in more isolation. The land primarily seems to be defined by sacred places which then are signified with rock art motifs. The motifs in themselves are largely derived from the everyday lifeworld, but are exempted from the mundane context since usually they are not at the habitation sites. Engravings seem to be the results of special ritual activities conducted only for these peculiar places beyond the everyday routines.

Probably the whole landscape was seen as symbolically charged, and specific configurations of the landscape were deemed meaningful or sacred, independent of human use. Such places of symbolic significance existed independent of rock art, and the pre-existing significance was only made visible or emphasised through engravings. Obviously, a few pictures, often just a single one, sufficed to achieve this emphasis. They marked the sacred landscape beyond the everyday routine, and even if the activity took place in the daytime lifeworld, the places would rest outside the secular routine so that they hardly became ordinary habitation sites. This entire process constitutes a **passive** appropriation of the landscape, since the engravers entered and used a landscape containing “ready-made” sacred places that they would endow their markings due to the places’ pre-existing significance. Their art production was not an active way of *Gestaltung* but rather a passive way of acknowledgement of a given sacredness to which the engravings meant a kind of service.

The above hypotheses about an active versus a passive appropriation of the

landscape can be extended to the question of how the specific practice of art production provided links to the identities of the different groups, and what function art fulfilled for them in communication and social interaction.

Arguably for the painters the landscape was the stage from which they advertised their predilection for cattle, as 63% of the depictions of animals are cattle. In as much as the whole livelihood revolved around the main stock, the collective thinking was dominated by it. The symbolic capital which cattle represented was “deposited” in the landscape at the most common places of their lifeworld. In this process the depictions of cattle were self-referential, not meaning nor symbolizing anything else than cattle inscribing the significance and value of cattle into the landscape, thus making them meta-symbolic capital. If cattle, beside their role in livelihood, were also symbolic capital, then a depiction of a cow would be a symbol for symbolic capital, i.e., two symbolic transcriptions away from the real capital, which would become real if, for an example, a cow was bartered for some other goods. This use of meta-symbolism for cattle constituted a feedback loop enhancing and reassuring the significance of cattle in everyday situations since this is where the paintings were encountered. They served to articulate the identity of the prosperous cattle herder and by this also playing with or negotiating secular assets such as wealth, status and power, comparable to what Russell (2013: 23) described for the camel keeping Rendille. Nevertheless depictions of cattle were mainly intra-group signals to help unfold these social values in their best, almost daily effect.

The engravers seem to have used art in a different way. For them, cattle were the primary means to express the extraordinary that is set apart, locally and semantically, from the mundane everyday. Engravings of cattle can be likened to donations to the sacred landscape, detached from secular use of the land and its resources. Therefore engraved cattle probably denoted religiousness and metaphysic symbolism rather than status and wealth. That such views were likely embedded in religious ideology may be corroborated by the fact that certain practices concerning the expressive repertoire and styles of engravings remained stable over millennia, although the data and characteristics listed above have no potential for chronological distinction. Moreover, it is only in engravings of cattle where one can occasionally observe interaction between depiction and humans, namely the intense rubbing over the cattle’s navel and less frequently other parts of the body (Fig. 4), so that a deep groove resulted in the bodily part. Such changes to the finished depictions were very likely the result of ritual behaviour and are not seen with paintings. Notably in one shelter in the centre of the Highlands, the entire walls are covered with grooves while there are no representational depictions.

In agreement with the postulated passive appropriation of the landscape, engravings seem to have expressed the identity of humble beneficiaries of a sacred landscape. Engravings, at least those of cattle, seemingly did not aim at expressing secular power relations, as there is no engraved sentinel, nor social value, even though the same cattle motifs and landscape is used by the painters. The painters and the engravers shared the identical economic base under identical ecological conditions. Nevertheless, the co-existence of the two techniques may be interpreted in terms of two clearly distinct groups.



Fig. 4. Engraving of a cow from north-eastern Ennedi

Note the deep grooves on tail tip, neck and udder, but particularly on the navel. They are not part of the usual engraving semiotics but evince post-production interaction with the picture.

In an analogous case of pastoralists sharing the same ecotope, Russell (2013) has distinguished two different principles reigning the marking of livestock among Nilotic and Cushitic pastoralists in northern Kenya. Here the Cushite Rendille brand their camels for ownership, while the Nilote Turkana brand to distinguish the clan. The incisions on animals “allows humans to speak to the spirit world” (Russell 2013: 11), and one might conceive an analogy in the deep grooves rubbed into the navel of engraved cows mentioned above. These incisions distance the animal from its economic function and renders it a means of religious communication, analogous to the role assigned to the engraved cattle in the Ennedi. However, a plain transfer of recent customs to prehistoric rock art in the Ennedi is highly speculative, also because the Turkana make marks only on living beings, and the brandings lose meaning if they are applied to inanimate matter (Russell, 2013). Moreover, Russell (2013: 23) asserted that the differences in marking customs may be indicative as to which type of animal was being herded on the level of linguistic affiliation, thus the difference may be either an economic or an ethnic marker.

CONCLUSION

The different techniques and distribution patterns of paintings and engravings obviously express different idioms of pictorial communication not only based on the difference in technique, but also based on other differences such as distribution and motif selection as well as motif contextualisation. If combinations of specific technique, motif, distribution and style are distributed in local, clearly circumscribed areas, there is little doubt that they are based on a consensus of how to communicate a given theme, namely cattle, in a distinct manner, so that it is distinguishable from the manifestation of the same theme already in the next valley. These differences also seem to be connected to different concepts of the human-landscape relationship, expressed in an active versus passive appropriation of the land by means of rock art. Such divergences may be so basic that painters and engravers may have been different people who possibly even spoke different languages. Nevertheless there is no evidence to cast doubt on the assumption that they co-existed largely peacefully. The groups of painters and engravers with their smaller subdivisions, whose identities are discernable in idiosyncratic rock art motifs, shared the scarce resources of the seasonal or annual lifeworld. The shared pastoral economy was a uniting factor but also a reason for the symbolic manifestation of clear small-scale collectives. On the one hand occasional large meetings between the different pastoral groups may have taken place, enabling various economic and social exchange. This could explain the far-reaching spread of certain traits such as homogenous pottery or stylistic commonalities in rock art (Jesse et al., 2013). On the other hand, more or less constant neighbourhood—even in a (semi-)nomadic or transhumant way of life, one would meet the same people again—as well as cooperation or competition for scarce resources may have advanced efforts for the advertisement of distinct identities which defined specific home areas. This however would not only have been at work on the level of groups as distinct as painters and engravers, but also within these groups where idiosyncratic motifs define very restricted “home areas” of few square kilometres that may have sustained no more than an extended core family. While the ecological conditions seem to have imposed a narrow choice of economic strategies, it was perhaps the scarcity of resources which favoured a parallel development of cooperative strategies on one hand and, on the other hand, clear notions of separate collective identities, each of which to choose some particular symbolism to advertise the attachment to the land but otherwise leaving the landscape largely unchanged.

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NOTE

- (1) See also Hodder et al. (1995: 239–241) for an archaeological application. The “Lebenswelt” concept is one theory derived from the phenomenology of Husserl, and a phenomenological position is also occasionally expressly claimed by postmodern archaeologists (Bender, 2002: 108). Tilley, one of the leading writers in post-processual archaeology, has based a monographic study on this concept (Tilley, 1994). However, phenomenology is not one established framework and Tilley is inspired by the phenomenologies of Heidegger and Merleau-Ponty. Both are concerned with “the groundedness of social Being in that which is not humanly created” (Tilley, 1994: 14), i.e., in other words, with the dialectic of objectivity and subjectivity of living in and experiencing space. This guideline, through the nature of the relevant writings, remains highly philosophical and abstract and lacks the pragmatism of Schütz’s concept. Consequently it is hard to distil an applicable archaeological method from Tilley’s approach.

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